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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,384	01/26/2004	Johannes Coleta Maria Van Den Broek	000771.00050	4572

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BANNER & WITCOFF, LTD.  
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WASHINGTON, DC 20005-4051

EXAMINER
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CUNNINGHAM, GREGORY F

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/763,384

Applicant(s)

VAN DEN BROEK ET AL.

Examiner

Greg F. Cunningham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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### **DETAILED ACTION**

1. This action is responsive to communications of application received 1/26/2004.
2. The disposition of the claims is as follows: claims 1 - 13 are pending in the application. Claims 1 and 10 are independent claims.
3. The group and/or Art Unit location of your application has changed. To aid in the correlation of any papers for this application, all further correspondence should be directed to Group Art Unit 2624 (effective 03/07). Please be sure to use the most current art unit number on all correspondence to help us route your case and respond to you in a timely fashion.
4. When making claim amendments, the applicant is encouraged to consider the references in their entireties, including those portions that have not been cited by the examiner and their equivalents as they may most broadly and appropriately apply to any particular anticipated claim amendments.

### ***Claim Objections***

5. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The only difference between claims 3 and 4 is:

Claim 3 depends from claims 1 or 2.

Claim 4 depends from any one of the preceding, but then claims 1 or 2 are any of the preceding with reference to claim 3.

Claim 3 cites “a plane transversely ...”, while claim 4 cites “the plane transversely ...”.

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kee et al., (US 6,685,080 B1), hereinafter Kee.

A. Kee anticipates claim 1, “1. Apparatus for visually inspecting soldered joints made on a soldered object, characterized by:

a camera for recording at least one image of the soldered object on which the soldered joints to be soldered are present [col. 7, lns. 33-40; col. 10, lns. 21-22];

a computing device connected to the camera for receiving the signals from the camera that represent the images recorded by the camera, the computing device being arranged for comparing the signals with signals which are representative of correct soldered joints [col. 10, 21-37]; and

a handling device for moving the soldered objects on which the soldered joints to be inspected have been made to a position within the viewing range of the camera [col. 6, lns. 49-59, wherein positioner 22 corresponds to “handling device is arranged for moving”]” [as detailed].

B. Kee anticipates claim 2, “Apparatus according to claim 1, characterized in that said the

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handling device is arranged for moving the soldered object with respect to the camera [col. 6, lns. 49-59, wherein positioner 22 corresponds to “handling device is arranged for moving”]” supra for claim 1 and further [as detailed].

C. Kee anticipates claim 3, “Apparatus according to claim 1 or 2, characterized in that the handling device is arranged for moving the soldered object in a plane transversely to the optical axis of the camera [col. 6, ln. 44 – col. 7, ln. 12, wherein x and y axis shown by arrows  $\leftrightarrow$  in Fig. 1 move across “transversely” in relationship to microscope/camera axis (76, 78, 100) as shown in Fig. 1]” supra for claim 1 or 2 and further [as detailed].

D. Kee anticipates claim 4, “Apparatus according to any one of the preceding claims, characterized in that the handling device is arranged for moving the soldered object in the plane transversely to the optical axis of the camera [col. 6, ln. 44 – col. 7, ln. 12, wherein x and y axis shown by arrows  $\leftrightarrow$  in Fig. 1 move across “transversely” in relationship to microscope/camera axis (76, 78) as shown in Fig. 1]” supra for any one of the preceding claims and further [as detailed].

E. Kee anticipates claim 5, “Apparatus according to any one of the preceding claims, characterized in that the handling device is arranged for tilting the soldered object about a first axis extending perpendicularly to the optical axis of the camera [col. 10, lns. 39-50, wherein ‘rotated about a horizontal axis as shown in by arrow 108’ corresponds to tilting the solder object” in relation to the optical axis]” supra for any one of the preceding claims and further [as detailed].

F. Kee anticipates claim 6, “Apparatus according to claim 5, characterized in that the handling device is arranged for tilting the soldered object about a second axis extending

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perpendicularly to the optical axis of the camera and perpendicularly to said first axis [col. 10, lns. 37-39, corresponds with 'auxiliary camera 100A positioned to view the workpiece 40 from an oblique angle 114']" supra for claim 5 and further [as detailed].

G. Kee anticipates claim 7, "Apparatus according to any one of the preceding claims, characterized in that the apparatus is arranged for moving the soldered object to a second position in response to a comparison of the image obtained in the first position of the soldered object with a first criterion stored in the computing device and subsequently comparing the image obtained in said second position with a second criterion [col. 10, lns. 22-61] supra for any one of the preceding claims and further [as detailed].

H. Kee anticipates claim 8, "Apparatus according to claim 7, characterized in that the apparatus is arranged for reducing the distance between the camera and the soldered object if the first criterion is not met [col. 11, lns. 3-18, wherein Z-axis positioner reduces the distance] supra for claim 7 and [as detailed].

J. Kee anticipates claim 9, "Apparatus according to claim 7 or 8, characterized in that the apparatus is arranged for tilting the soldered object about an axis extending perpendicularly to said optical axis if the first criterion is not met [col. 10, lns. 22-61, wherein 'auxiliary camera 100A may be positioned to view workpiece 40 from an oblique angle 114' corresponds to "tilting the soldered object about an axis extending perpendicularly to said optical axis"] supra for claims 7 or 8 and [as detailed].

K. Kee anticipates claim 10, "Method for visually inspecting soldered joints [col. 7, lns. 28-33], which method comprises the following steps:

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moving the soldered objects on which the soldered joint to be inspected is present to a position within the viewing range of the camera [col. 6, lns. 49-59, wherein positioner 22 corresponds to “handling device is arranged for moving”];

recording an image of the soldered joint to be inspected [col. 7, lns. 33-40; col. 10, lns. 21-22];

comparing a signal representing the image with a reference signal representing an assessment criterion [col. 10, 21-37]; and

delivering a decision signal on the basis of said comparison [col. 10, lns. 28-37, corresponds with anticipation of unacceptable or acceptable variations]” [as detailed].

### *Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kee.

A. Kee discloses claim 11, “Method according to claim 10, characterized in that the position of the object relative to the camera is changed in dependence on the decision signal” supra for claim 10. In as much as Kee discloses claim 11, he does not specifically indicate position change in response to decision signal. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the position and inspect a next site based on an acceptable previous site as indicated by Kee in col. 10, lns. 28-37.

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B. Kee discloses claim 12, "Method according to claim 11, characterized in that the angle between the optical axis of the camera and the soldered object is changed in dependence on the decision signal" supra for claim 11. In as much as Kee discloses claim 12, he does not specifically indicate angle change in response to decision signal. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the angle and inspect a next site based on an acceptable previous site as indicated by Kee in col. 10, lns. 28-37 and col. 10, lns. 37-45.

C. Kee discloses claim 13, "Method according to claim 11 or 12, characterized in that the distance between the camera and the soldered object is changed in dependence on the decision signal" supra for claim 11 or 12. In as much as Kee discloses claim 13, he does not specifically indicate distance between the camera and the soldered object change in response to decision signal. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the Z-axis distance and inspect closer detail based on an acceptable or unacceptable prior site as indicated by Kee in col. 10, lns. 28-37 and col. 11, lns. 3-18, wherein Z-axis positioner reduces the distance.

### ***Responses***

10. Responses to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

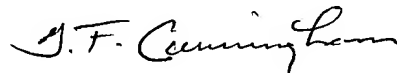


*Inquiries*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory F. Cunningham whose telephone number is (571) 272-7784.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Bella can be reached on (571) 272-7778. The Central FAX Number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gregory F. Cunningham  
Examiner, Art Unit 2624

gfc

3/31/2007



**MATTHEW C. BELLA**  
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